ANNEX E

PLANNING FOR THE COMMUNITY INFORMATION HANDLING SYSTEM (CIHS)

ANNEX E

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ANNEX E

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I. SUMMARY

STAT 1.1 ☐ As a first step in the development of a master plan for the Community Information Handling System, the IHC Staff made recommendations to the DCI and the newly established Community Information Systems Office concerning the major aspects of the work that the CISO and collaborating organizations should undertake to accomplish the information, adoption and implementation of such a master plan.

STAT 1.2 ☐ The Chairman of the IHC has drafted a proposed program of work for the new CISO to pursue in developing a master plan for the Community, which is set forth in the succeeding paragraphs of this annex. The staff of the CISO is presently evaluating these recommendations and developing its own program of work designed to accomplish this task.

II. DISCUSSION

General Principles Applicable to CIHS Planning

STAT 2.1 ☐ The activities, procedures and tools essential to instituting and maintaining a planning process and a master plan for the CIHS, described in Annex E, include (1) an official identification and analysis of the needs of the Community's users and customers for support from information handling systems; (2) an authoritative, orderly description of the Community's existing baseline of information assets and capabilities; and (3) a regular orderly process for

comparing needs with capabilities. The planning organization develops and analyzes alternative solutions to the shortfalls identified, and presents evaluated options to top management for decision. The plan is updated regularly and repromulgated annually, and the planning organization monitors its execution. Annex E, Tab 1 expands on the CIHS planning process.

STAT 2.2 ☐ Effective CIHS planning requires a well-developed management system (MIS) that encompasses both the detailed description of user needs and the characteristics of the baseline's assets. It includes also, data that will permit the measurement and audit of CIHS component system effectiveness in operation. Annex E, Tab 2 elaborates on the MIS.

STAT 2.3 ☐ The actions selected by management for implementation as a result of the planning process are placed in effect through their linkage with the events that transpire in the annual program and budget formulation, review and decision cycle, applying principles of zero-based budgeting. Annex E, Tab 3 describes the interrelations between the CIHS and the program/budget cyclical process.

STAT 2.4 ☐ The work program of the planning organization (CISO) is tightly meshed with the related activities of other components in the DCI's Deputy for Resource Management, particularly the Office of Program and Budget Development. (See Annex E, Tab 3)

STAT 2.5 ☐ Annex D presents the draft of a DCI Directive (DCID), and its provisions are taken as a basis for CIHS planning as described in Annex E. Annex D establishes the CISO and promulgates its mission and functions.

STAT 2.6 ☐ Annex D expresses as statements of policy that the accumulation of intelligence information by the US Government is a resource of the nation and not a resource of any department or agency; that intelligence information is susceptible to being managed, measured and controlled as a resource to promote its most efficient utilization in the service of customers who require intelligence products; that a consideration in the design of future information handling systems is their potential for service to the Community as well as to a particular organization; and that the goal in each Community organization is to improve access to and use of the information resource through the cost/effective application of manpower and machines.

STAT 2.7 ☐ Annex D also states that planning for the CIHS will be accomplished centrally as will the task of monitoring and providing guidance during the implementation of approved plans and the conduct of on-going operations. However, the detailed implementation and continuing operation of individual information handling systems will be decentralized, and will be accomplished by delegations of authority, responsibility and accountability, including resources, to designated organizations.

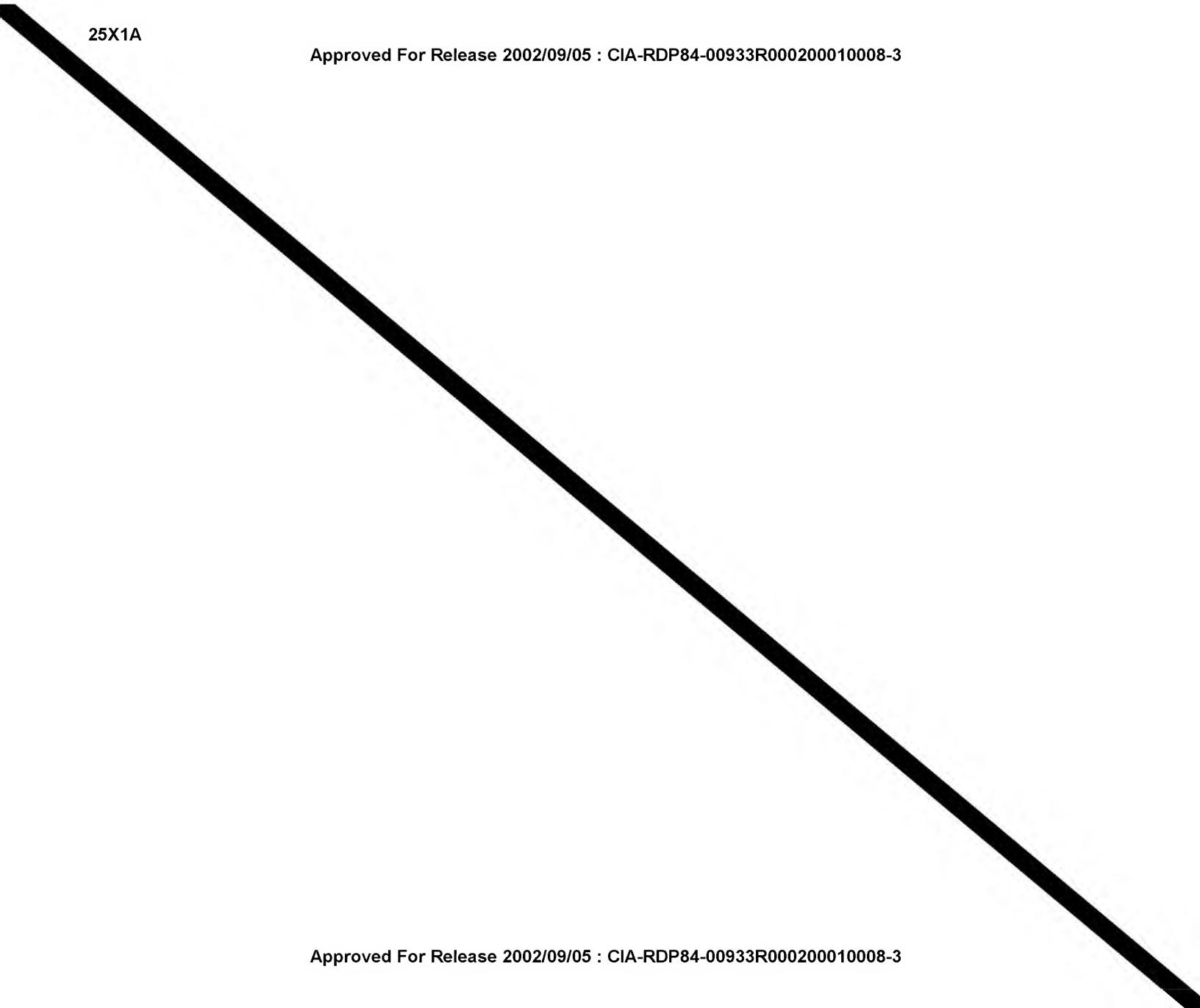
STAT 2.8 ☐ The top level of management of the Intelligence Community will provide on a continuing basis authoritative review, direction and policy decisions for CIHS planning.

STAT 2.9 ☐ Implementation of the CIHS master plan will be achieved through the annual program and budget cycle of decision-making.

Diversity of Relationships in Intelligence Community Structure

STAT 2.10 [redacted] The extent and diversity of the relationships within the Intelligence Community in both institutional and programmatic terms -- impacting on the scope and character of the planning required for the CIHS -- can be illustrated by reference to the structure of the Community Intelligence Resources Information System (CIRIS). That data base currently embraces over 500 individual major units, activities, projects, offices, or other types of cost centers (called "Reporting Entities") that are in receipt of assets from the National Foreign Intelligence Budget via their parent organizations. The Reporting Entities, in turn, are combined into ten "programs", and these are coordinated by program managers from six different department or agencies. Within the resources reporting structure prescribed for use throughout the Department of Defense, entitled the Five Year Defense Plan (FYDP), intelligence resources that are included in the National Foreign Intelligence Program (NFIP) and Budget (NFIB) are spread among approximately 56 "program elements." Each of the latter is a resources center for a group of units and activities which have a degree of commonality of function or purpose.

STAT 2.11 [redacted] Figure E-1, which is derived from the CIRIS structure, summarizes the institutional and programmatic diversity of the Community's component parts that are encompassed by the NFIP. The purpose of CIHS planning is to improve the management, sharing and flow of intelligence information in order that the Community as a whole can achieve greater effectiveness through the collaborative accomplishment



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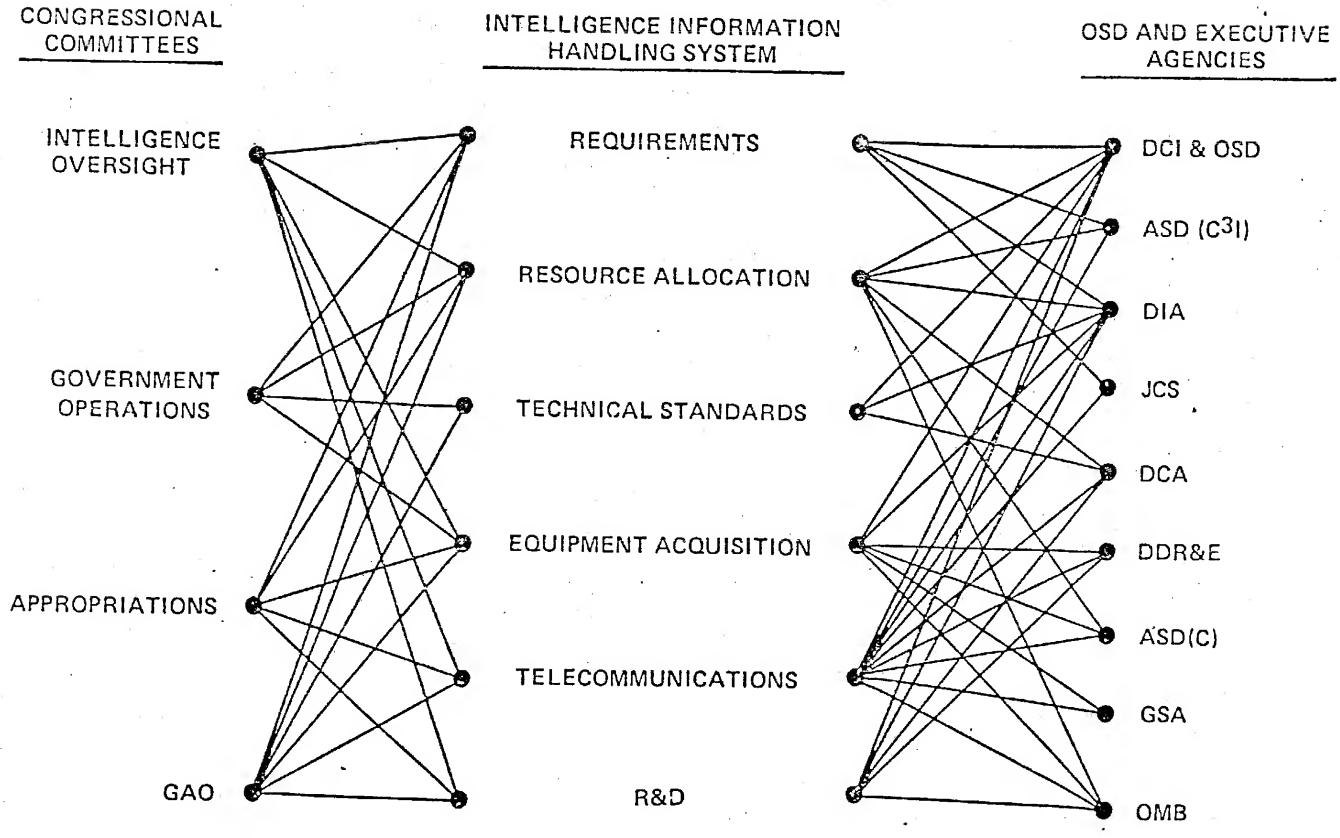
of intelligence functional tasks. Intelligence functional relationships cut across the boundaries established for organizations and programs. They represent a different manner of slicing intelligence resources. CIHS planning must work out a modus vivendi with institutional regulations that are beyond the control of intelligence managers -- such as the case where regulations of general applicability are prescribed for procurement, operating and accounting for computers by a department, one component part of which is also a member of the Intelligence Community.

Top Management Guidance for CIHS Planning is Essential

STAT 2.12 [redacted] CIHS planning requires a regular interaction between those in charge of that work and the top level of Community management (see section 2.4, above). Authoritative guidance is essential in order to assure the application of resources according to the approved plan. It is essential, also, to establish the authority of an approved plan, so that the latter can stand as the Community's official response to the numerous external authorities that are performing some form of continuing overview of intelligence activities or that are impacted by the conduct of intelligence work. Figure E-2, prepared by DoD, illustrates the diversity of organizations with an official interest in different aspects of intelligence information handling.

Figure E-2

POLICY ENVIRONMENT



Prepared by: DoD

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Overview of the Planning Process

STAT 2.13 [redacted] The planning process is a continuous one. At different periods during the year, activities and outputs are emphasized because they are of immediate assistance to producing the results called for in the program/budget cycle, such as the production of DCI planning guidance at the start of the year and thereafter the conduct of functional reviews to assist in programming decisions. These events are illustrated by Figure E-14. The total planning process has many facets, as indicated by the description of the mission and functions of the Community Information Systems Office (CISO) presented in Annex C. To illustrate, work to promote agreement on various forms of technical standards is a part of planning, just as is individual issue analysis, or the development and testing of factors to be built into a management information system (MIS) in order to measure and evaluate the efficiency of the utilization of computer hardware. The capstone of this activity is the annual revision and repromulgation of the official master plan for the CIHS, but the foundation building which makes it possible to erect the capstone is the continuous work of building and using the MIS and providing practical direct support to the conduct of events in the budget formulation and review cycle.

STAT 2.14 [redacted] Figure E-3 presents a synopsis of the CIHS planning process. The major components are: (1) the identification of information needs (requirements) of CIHS users; (2) the tabulation of existing and officially planned capabilities of the CIHS to satisfy those needs (baseline); (3) description of shortfalls between (1) and (2);

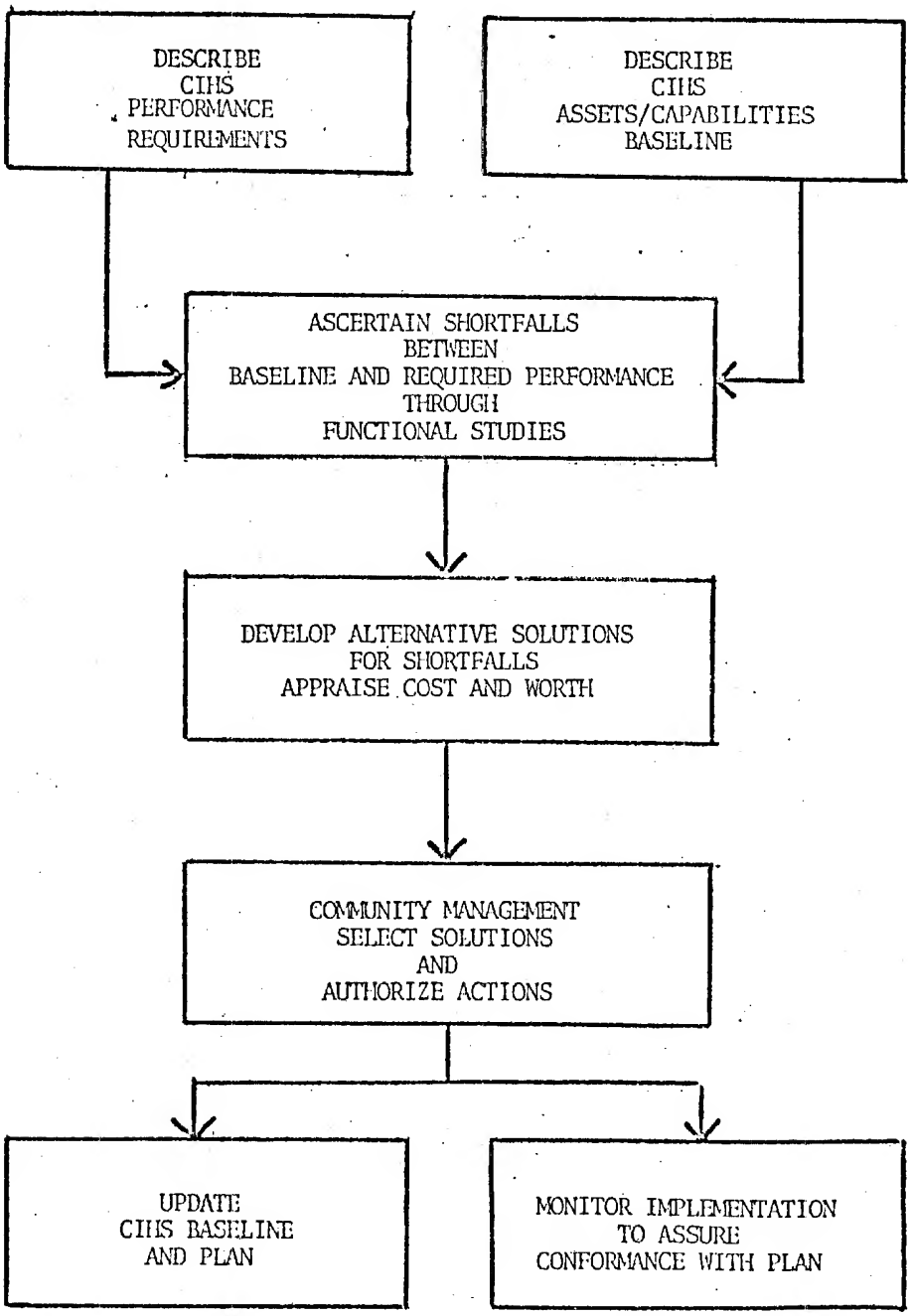

Figure E-3: Overview of CIIS Planning Process

(4) the development of alternative means to satisfy the shortfalls and the appraisal of the net cost/effectiveness of each alternative; (5) the presentation to and selection by Community top management of solutions; (6) the updating of the CIHS baseline to incorporate approved solutions; and (7) the monitoring of the implementation of approved solutions in order to assure conformity with the official CIHS plan.

CIHS Planning Commitments

STAT 2.15 ☐ The implementation of a formalized CIHS planning process leading to the development of an official community-wide plan is a very sizeable task. (See Figure E-8, Annex E, Tab 1, for a chart of a start-up schedule.) Such a plan must, by definition, be co-extensive with the National Foreign Intelligence Plan (NFIP), and it must support all of the diverse activities of the Intelligence Community where information handling systems and procedures are important to the successful conduct of intelligence functions and activities. Annex E, Tab 1 presents further details on the CIHS planning process. (*)

STAT 2.16 ☐ Resources. To accomplish effective planning, a centralized body is needed. (See Annex C relative to a Community Information Systems Office and related organizations.) In addition to a commitment

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(*) - Figures E-6 and E-7 in Tab 1 illustrate shortfalls to the CIHS baseline.

of staff personnel, a multi-year commitment of resources for an assured level of external support is required. (See Figure E-8, Tab 1, for an illustrative projection of the component tasks within the CIHS planning process and the build-up of in-house staff and external contractor support.) The Congress must be willing to support the DCI in providing an enhanced level of resources for this purpose over a period of the next several years.

STAT 2.17 | [redacted] Time. Community-wide planning also requires a commitment of time. There are presently in use a large number of automated information handling systems. For the most part, they are performing their specific functions very creditably. They were designed in prior years, some like DIAOLS over a decade ago, to serve the particular needs of individual organizations. The present-day design criterion -- to effectively serve the entire Intelligence Community as needed -- was not a prominent requirement of that past era. Current, ongoing intelligence activities must continue to be served by available information handling systems until replacements, where appropriate, can be provided. Limitations in future resources require that existing investments be exploited to maximum advantage. Projected technological advances in ADP and telecommunications are other factors to be weighed in the equation that evaluates the pace and scope of planning for future replacement systems. The planning for technical intelligence collection systems, such as satellite collectors, impacts directly on the timing for the development and

implementation of automated capabilities to process the collected data. The planning period encompassed by a projection such as the Five Year Defense Plan (FYDP) extends some 5-6 years into the future. However, the lead time for some high technology collection sensors could extend considerably beyond the FYDP period.

STAT 2.18 | ☐ The conclusion is that CIHS planning must be long enough in point of time to accommodate the longest lead items for which information systems support may be required. This implies a minimum of 10 years, and out to 15 years in some cases. However, some aspects of long term planning are not closely predictable. An uncertain international climate is one such factor; the precise nature of further technological developments is another. Under these circumstances, a reasonable compromise is indicated. Accordingly, the CIHS planning process should be treated in two time segments: (1) a mid-term period of 5-7 years, during which rather precise planning is feasible; and (2) a long-term period, out to some 15 years, where the planning process should be much less formal, less authoritative, and more flexible in its form and selective in its content.

Management Information System

STAT 2.19 ☐ Purpose. A management information system (MIS) is a mechanism that is essential to accomplish CIHS planning. Such a system should be descriptive of all of the major aspects and characteristics of the CIHS and its individual component systems, data bases, equipment, facilities and networks. This device is designed to serve as the

container for the detailed information set forth in the CIHS baseline inventory and for other sets of data that are needed in order to accomplish analysis, review, management appraisal and decision-making on information handling resources issues. The analysis of its contents permits identification of shortfalls in the official baseline. The MIS, also, contains information on costs and resources, on performance characteristics of equipment and systems, and statistics relating to system use and efficiency.

STAT 2.20 [ ] Contents. Major subsets of data included in the MIS are:

* CIHS Performance Requirements (user needs)

* - CIHS Component Systems (characteristics of equipment and systems, including those identified in Annex A.)

* - Data Bases and Files (descriptions of data bases and files, such as the 400 plus identified in Annex B.)

* - Physical Facilities (descriptions of centers for data handling, processing, storage, retrieval, services, etc.)

* - Telecommunications Facilities & Networks (descriptions).

Annex E, Tab 2 presents further details on the Management Information System. Figures E-9 through E-13 contain data trees to illustrate each of the five major data subsets identified above.

STAT 2.21 [ ] Design. The MIS must be automated in view of the scope and variety of its contents and the need to associate diverse data elements for different forms of program, budget, technical or managerial analyses. The design, test and implementation of such a system will require at least two years of development, and an additional two cycles of data input/data output to stabilize its operation.

STAT 2.22 [redacted] Data Collection, Processing and Use. The Consolidated Intelligence Resources Information System (CIRIS) provides a precedent and parallel for a mechanism to periodically collect and process the various sets of data required for the CIHS Management Information System. Such an undertaking requires Community involvement initially for the design of such a system, and thereafter Community participation and cooperation is required in responding to periodic data calls. The latter are levied in the name of the DCI, and require that information inputs be provided at specific milestone dates in order that these inputs can be processed in time to create outputs from the MIS for use in the cycle of annual events that culminate in the review and approval of a zero-based budget for the total Community. Annex C, which discusses the Community Information Systems Office (CISO), assigns to that organization the direction and operation of the MIS, as well as serving as the focal point for the design of this system.

Use of the CIHS in
Program/Budget Cycle Events and Zero-Based Budgeting

STAT 2.23 [redacted] A community-wide information handling system (CIHS) plan and its supporting MIS are tools which make it possible for resources managers to formulate, gain approval for, and ultimately operate information handling systems that will be of greatest mutual benefit and effectiveness in support of the Community's substantive intelligence activities and functions. The plan and the

MIS will have little value if they are not designed and implemented in a manner that allows them to make a major contribution to the annual cycle of planning, programming and budgeting events. This cycle culminates in the DCI's approval of the Community's zero-based budget, which, thereafter, is presented to the Office of Management and Budget, the President, and the Congress.

STAT 2.24 [redacted] The CIHS planning activities and processes described herein are specifically tied to this annual cycle that is observed by the entire US Government. In summary form, the following sections identify the contribution of the CIHS to each of these major events. Figure E-4 illustrates the events of this cycle, and highlights the series of interactions between the Community's top management and those charged with the responsibility to carry out CIHS activities that support management decision-making.

STAT 2.25 [redacted] Planning. Near the close of each calendar year, the DCI issues general planning and programming guidance for the next five-year period. This is incorporated into the Secretary of Defense's Planning and Programming Guidance Memorandum (DPPGM), a particularly important arrangement since the DoD accounts for some 85% of the total ADP-related resources of the Intelligence Community. Heretofore, little planning guidance on information handling systems and ADP-related assets has been provided from the DCI level. Hereafter, the DCI will include a narrative devoted to this subject, and will specify fiscal constraints to be observed by the Community organizations

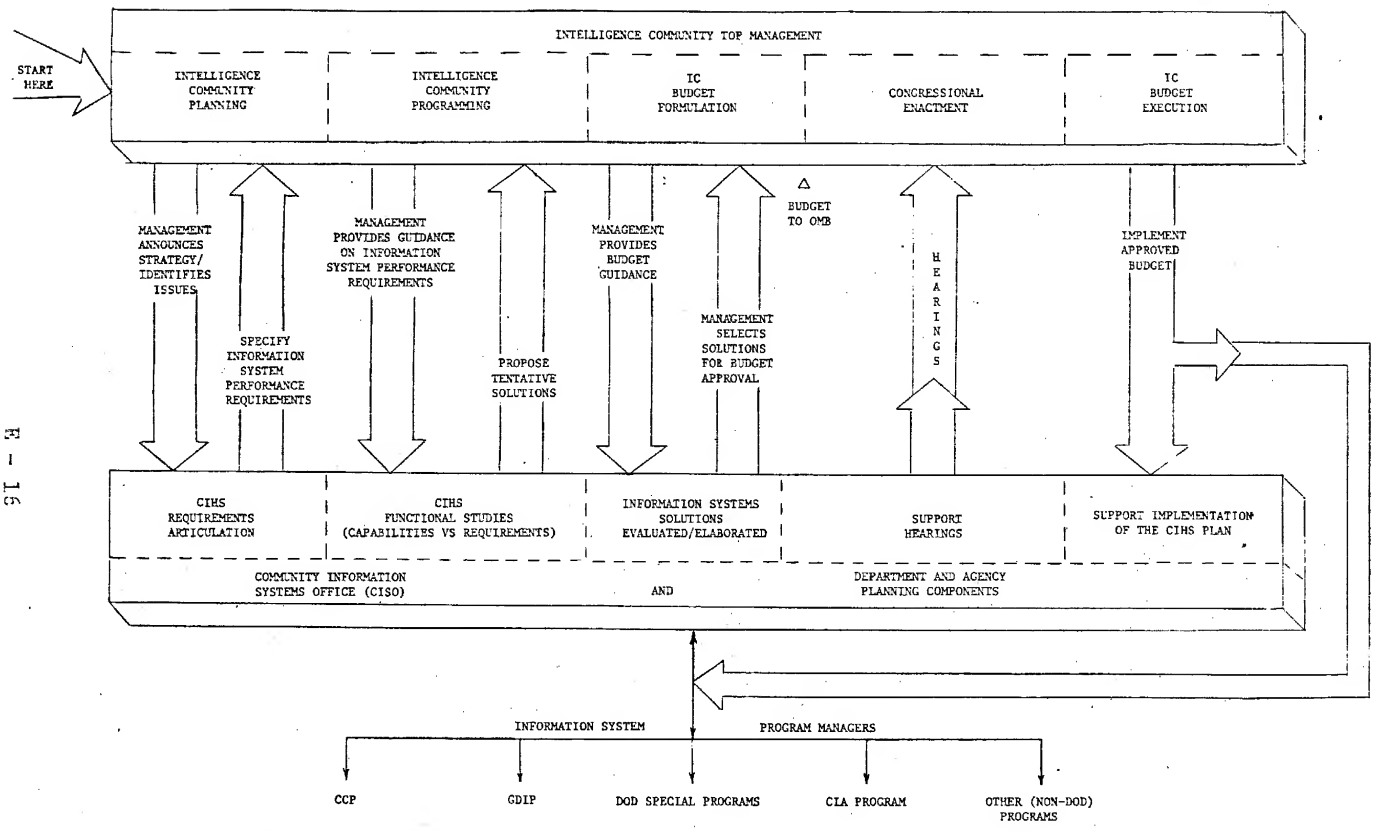

FIGURE E-4. INTERFACES WITH COMMUNITY TOP MANAGEMENT IN PLANNING AND EXECUTION OF CIHS

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in formulating their component portions of the NFIP. The CIHS will provide the factual information and evaluations that can make possible the formulation of sound and balanced DCI planning guidance to the Community.

STAT 2.26 ☐ Programming. Heretofore, the presentation of information handling systems and ADP-related assets has been in a piecemeal fashion in the context of individual requests and proposals of the several members of the Community. The format followed has differed by department and agency, and it has not been possible to assemble and present to top management a systematic panoramic identification of the spectrum of these assets and their uses. The advent of the concepts of zero-based budgeting (ZBB), particularly the features that involve packaging and ranking resources and their uses, provides a new and helpful tool to improve the quality of community-wide programming. The CIHS and its MIS are being designed to dovetail with the packaging concepts of ZBB. These concepts highlight intelligence functional activities and relate resources directly to the tasks performed. The development of the CIHS will make it possible to conduct functional reviews (across organizational and programmatic lines) of information handling resources and uses that were infeasible heretofore.

STAT 2.27 ☐ Budgeting. Heretofore, budget proposals within the Intelligence Community have been presented for review by top management in terms that emphasize the institutional individuality of the agencies and departments rather than their functional interdependence

in the intelligence business. Information handling systems and ADP-related assets have been similarly constrained by the programs within which they have been presented. The result, from an overall Community point of view, has been the fragmentation of these assets, so that often the factual data provided did not permit them to be appraised as capabilities whose potential impact and significance extend beyond their parent institutions. In the fall of 1977, for the first time, the DCI's Intelligence Community Staff received budget estimates in ZBB format. Hearings, that included the OMB and OSD counterparts of the DCI's staff, demonstrated that the ZBB format had the potential to provide a new degree of visibility and an improved functional focus on the Community's resources. The CIHS and its companion MIS furnish tools and procedures to exploit the potential of ZBB and to enlarge the ability of Community staffs involved in budgeting to present for top management appraisal and decision markedly improved descriptions, alternatives, analyses and cost/effectiveness appraisals of information handling systems and ADP-related resources. One specific and tangible improvement that can result is a set of Congressional Justification Books vastly superior in the ability to relate intelligence operational systems, missions and functions to the support provided by information handling assets and ADP-related resources.

ANNEX E - TAB 1

THE CIHS PLANNING PROCESS

STAT 3.1 [redacted] Contents of Tabs. Annex E, Tab 1 includes further details on the task of designing and implementing a community-wide planning process for the CIHS. Tab 2 elaborates on the Management Information System, and Tab 3 discusses how the master plan for CIHS and the MIS both dovetail with and provide practical support for the ongoing cyclical process of programming and budgeting for the resources of the Intelligence Community.

Information System Planning is a Subset of Total Planning for the Intelligence Community

STAT 3.2 [redacted] Figure E-5 diagrams the CIHS planning process in the larger context of total Community planning, which includes systems and activities that do not involve information handling as their major characteristic.

STAT 3.3 [redacted] As was illustrated in summary form in Figure E-3, the CIHS planning process involves initially the identification and analysis of the needs of users and customers of information handling systems. Matched with those statements of information needs (which may be called the "performance requirements" demanded of the CIHS in order to accomplish its mission) is a second organized set of detailed information that relates to the actual capabilities of the CIHS as currently officially configured. The result of this comparison is, in most cases, a shortfall in capabilities. The planning process involves the development and evaluation of alternative solutions to shortfalls,

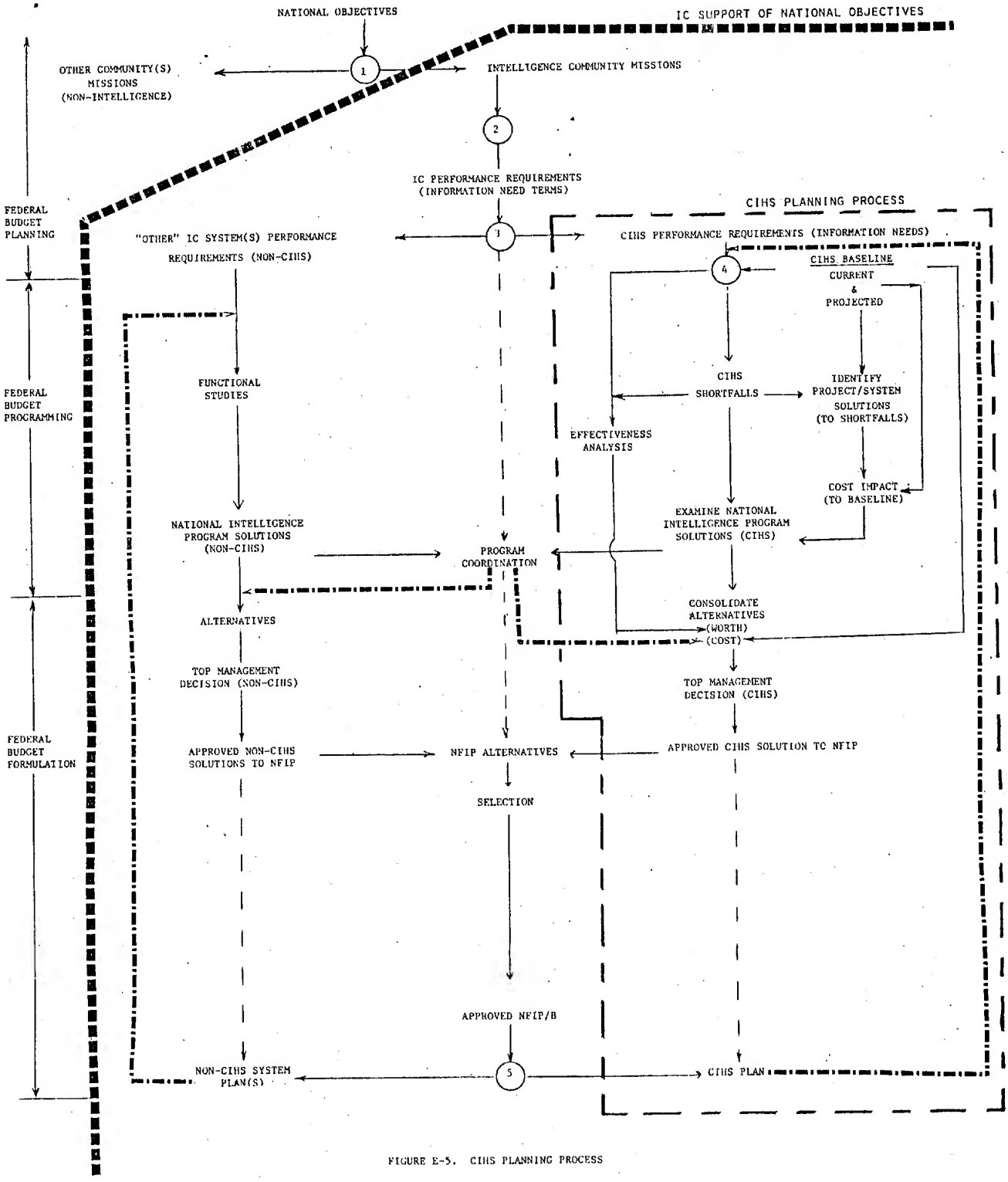


FIGURE E-5. CIHS PLANNING PROCESS

the further analysis of possible solutions in the light of their impact on systems and activities that are outside the realm of information handling, and the presentation of all of the considerations relative to each alternative to top management for decision.

STAT 3.4 [redacted] Performance Requirements (Information Needs). The articulation of CIHS performance requirements is a matter of great importance and considerable complexity. As Figure E-5 illustrates, they are derived, conceptually, from a larger set of similar requirements that encompass the total missions of the entire Intelligence Community. The latter are derived from an even higher-level set of broad statements, ultimately declared in terms of national policy, goals or objectives. While this process is straightforward in a conceptual sense, the actual verbalization of CIHS performance requirements is one that can involve semantic difficulty.

STAT 3.5 [redacted] It is essential to state these propositions in the non-technical terminology that is familiar to the user of or customer for intelligence products. It is important to avoid -- at this stage of planning -- statements of performance that are couched in technical language that describes computer systems or equipment. Avoidance of this pitfall cannot be overemphasized!

STAT 3.6 [redacted] The reason is this. Information systems exist to serve users, not to serve the designers and operators of automated equipment. Information systems have frequently failed because the user did not understand what the engineer was undertaking to provide. The starting point to assure a common understanding, and the authoritative point of reference to which it is necessary to reorient during the course of

the protracted design and development of a complex automated system, must be the clear and simply stated definition of what the technical system is to do in order to serve the non-technical user of that system.

STAT 3.7 [redacted] The desirable way to state performance requirements can be illustrated. For example: identify the intelligence subject matter specifically; indicate the required timeliness and frequency of receipt of this information; describe the data content and form; advise of the security considerations; explain how the information is used, possibly in relation to other information, and who and where the recipients are. Each item of information can be considered as an input to something and an output from something; and the summation of the items and the process in between will define telecommunications requirements (output to input) or data processing (manual or ADP) requirements (input to output).

Establishing the CIHS Baseline

STAT 3.8 [redacted] The CIHS baseline is a comprehensive, automated data base within the CIHS Management Information System (MIS). It encompasses all the information handling capabilities currently in operation, budgeted for or officially planned, as reflected in authoritative Community resources control documents, such as the NFIP, the NFIB, the DoD FYDP, or a Congressional Budget submission. The baseline is an extensive compendium of facts and figures. It includes descriptions of systems and users, technical data on major component parts, and cost data on all CIHS assets.

The Baseline in Action

STAT 3.9 [redacted] The principal purpose of the CIHS baseline is to provide information for the comparison of existing or officially planned capabilities with the performance requirements imposed on the CIHS. The product of this examination will (in most cases) be shortfalls that are exposed by this analysis. The baseline serves, also, as the point of reference that is a common authoritative source for use in the analytic work of identifying and testing possible solutions to shortfalls.

STAT 3.10 [redacted] Figure E-6 illustrates a shortfall between performance requirements and current baseline capabilities. Each shortfall must be identified and quantified in terms of its impact on the performance requirements. This will result in a measure of "worth" being applied to the development of a solution for each shortfall. Possible solutions to shortfalls will be articulated in the light of current technology projections and expectations, and will be stated in sufficient detail to identify a "cost" impact to the baseline, a quantitative measure of increased effectiveness to result from a particular solution, and an implementation risk assessment. The latter assessment should address both technical feasibility and consumer acceptability. The sequence of major events in the presentation of alternative solutions and the review and decision process by Community top management is depicted in Figure E-5. Figure E-7 illustrates how the baseline is revised as a result of these management decisions.

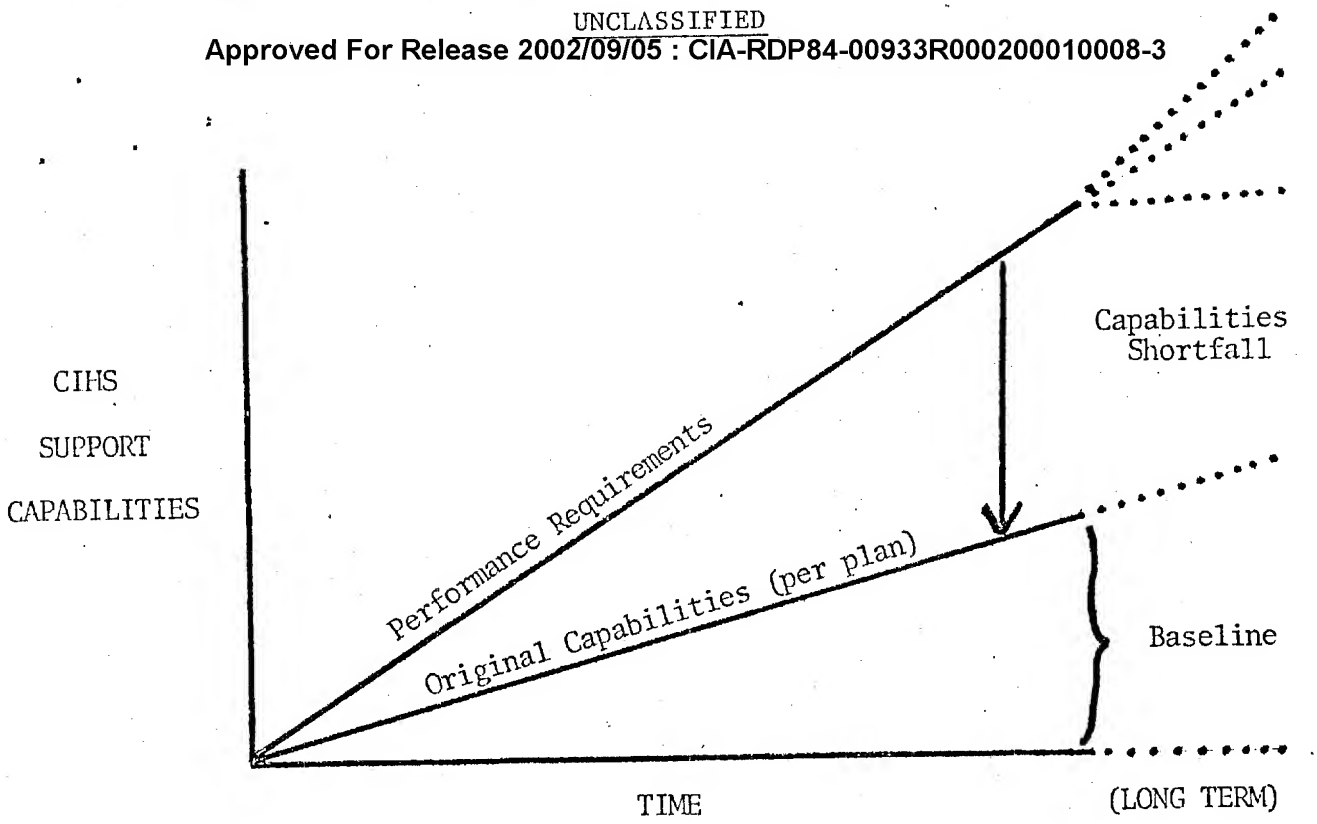


Figure E-6: Effectiveness of CIHS Baseline

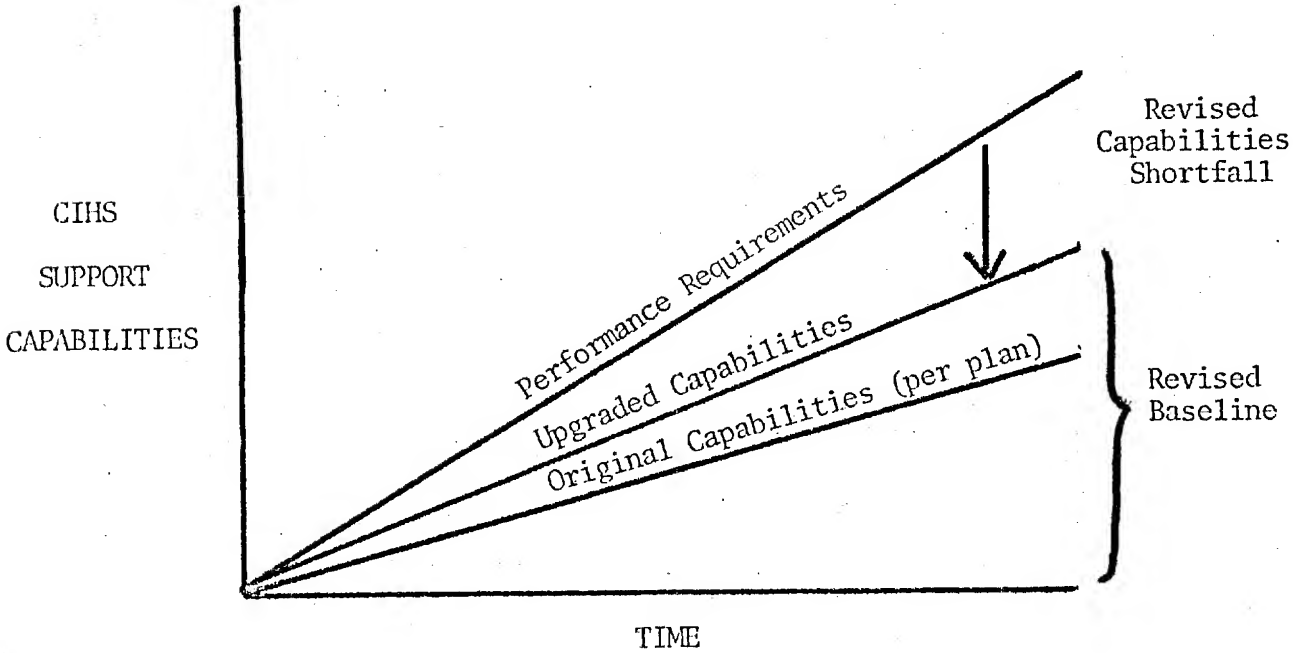


Figure E-7: Change in Effectiveness of CIHS Baseline

STAT 3.11 [redacted] The baseline is a valuable tool, also, as a means to respond to ad hoc inquiries from external sources, such as Congressional committees, and to prepare periodic overview reports and statistics.

STAT 3.12 [redacted] It warrants reiteration that to be useful in the analysis of shortfalls, the baseline must include information expressed in terms that are semantically equivalent to those used in the statement of performance requirements. This necessity is one of the criteria that must be carefully observed in the design of the MIS.

Baseline Development Period

STAT 3.13 [redacted] Developing the baseline portion of the MIS is a laborious and time-consuming task. As indicated in section 2.21, some two years of development time will be required, followed by a further period for fine tuning the mechanism in action. Extensive cooperation from all members of the Intelligence Community is essential. The detailed work is such that a large role may have to be played by one or more external contractors. This is not to say that the Community will have no baseline-type data until this task is completed. Obviously, ad hoc data collection has been and will continue to be carried out, particularly in support of current, specific issue analysis.

Schedule for CIHS Planning

STAT 3.14 [redacted] The DCI's Community Information Systems Office (CISO) is the mechanism, in conjunction with related planning personnel or components representing other Community members as well as senior

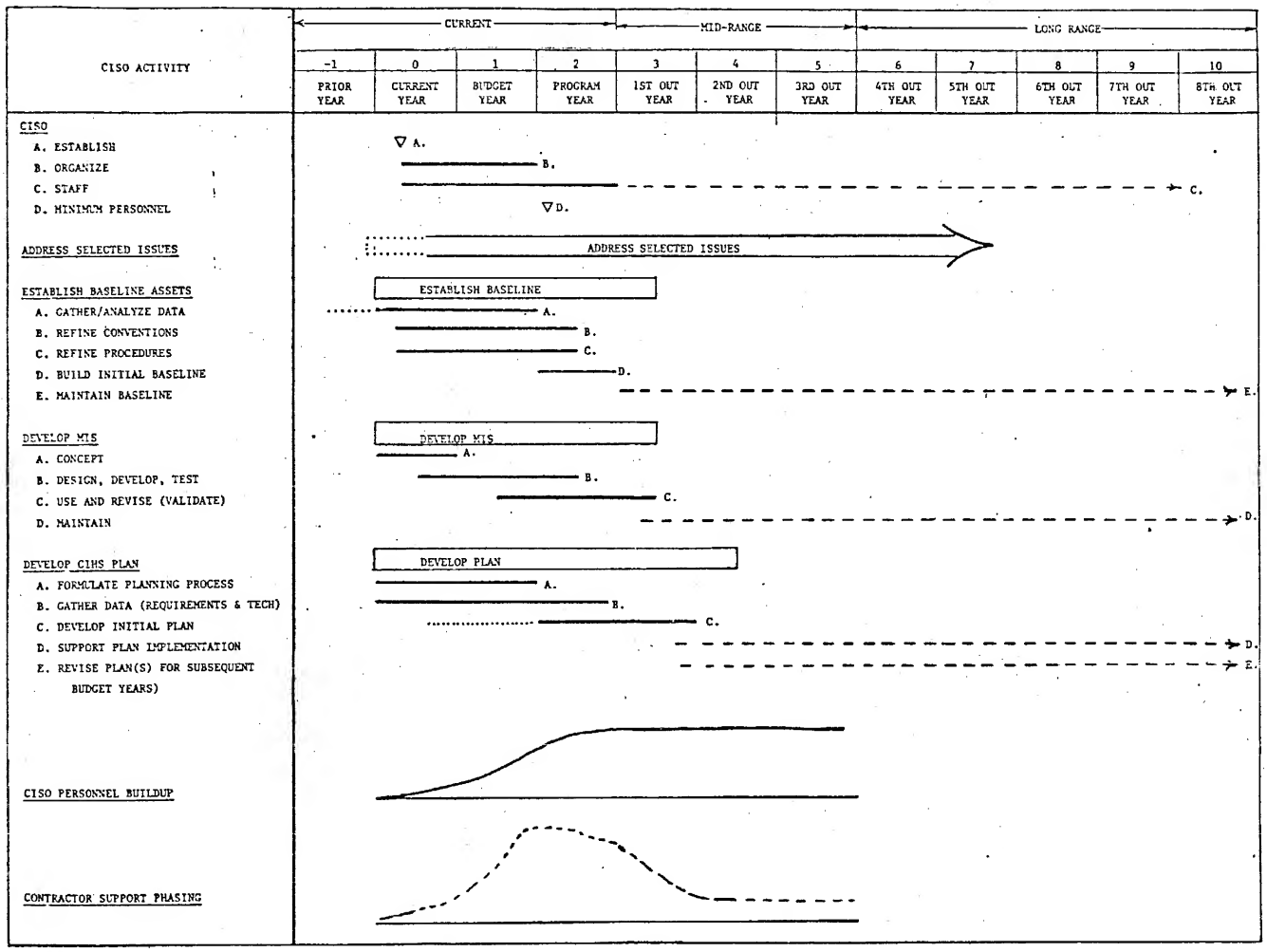
level interagency committees (such as the IHC, COMIREX and the SIGINT Committee), responsible for contributing to and assuring the successful accomplishment of CIHS planning.

STAT 3.15 [redacted] In addition to the intensive efforts, described above, to accumulate baseline data and to articulate the CIHS users' performance requirements, the Community's planners, particularly CISO, must establish the design characteristics for the total Management Information System (see Annex E, Tab 2). They must also make the Community familiar with the concepts and principles to be used in community-wide planning, and they must interrelate the CIHS planning effort with the events of the annual program and budget cycle (see Annex E, Tab 3), which governs the real world application of resources to develop, maintain, and operate information handling systems, assets and capabilities.

STAT 3.16 [redacted] The Community Information Systems Office (CISO) must accomplish its own initial organization and staffing, and adequate logistic support and funds for external contractor work will be required. Realistically, all of these actions will consume a considerable period of time, and will -- if they are to be successful -- demand continuing support and attention from the Community's top management.

STAT 3.17 [redacted] Figure E-8 provides an approximate schedule of time and events that are related to the establishment of the planning organization and the start-up of the major component tasks required for CIHS planning. It should be noted in particular that although the

organized planning process requires considerable time to be designed and implemented, Figure E-8 points to the necessity to address current selected issues immediately, although necessarily in an ad hoc manner.



INTENSIVE ACTIVITY LEVEL
STEADY STATE ACTIVITY LEVEL
AD HOC ACTIVITY

THE "CURRENT YEAR" IS FY-1978

FIGURE E-8. CIHS STARTUP SCHEDULE

ANNEX E - TAB 2

MANAGEMENT INFORMATION SYSTEM

STAT 4.1 [redacted] Scope. Tab 2 consists of sample data tree diagrams and brief explanations of the five principal subsets of baseline data that are required in a Management Information System (MIS) for the Intelligence Community's Information Handling System (CIHS). As noted in Annex E, the following discussion and figures indicate the general character and relationships of the data elements in each of the five subsets. It thus demonstrates the general scope and contents of the MIS. However, further design and development studies are required, and consequently Tab 2 should be taken as illustrative rather than definitive.

CIHS Performance Requirements

STAT 4.2 [redacted] This part of the MIS provides a listing of the current and projected CIHS performance requirements to support the missions of the Community in accomplishment of national objectives.

STAT 4.3 [redacted] Performance requirements are statements of the information needs of intelligence analysts and consumers that are to be satisfied through information handling systems and capabilities. They are stated in terms of the substantive information required.(*)

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(*) - A common error in the initial stages of planning for the design and development of an automated system is to jump too quickly to technical alternatives. The approach which gives greater assurance that the ultimate development will be responsive to actual user needs is that which makes a careful effort to document user needs initially in the terminology of the user, and to state baseline characteristics in similar terms as well as in technical capabilities language.

STAT 4.4 [redacted] The CIHS performance requirements include information bearing on the following points:

* - Customer Profiles

* - Intelligence Product Types

* - Intelligence Functions Supported. The ZBB system currently in use by the Intelligence Community identifies ADP packages that are tied to individual intelligence functions (e.g., signal processing, imagery exploitation, etc.). This correlation between information handling resources and the intelligence work supported thereby should be fully developed, in order to equip the MIS for practical use in the Community's annual resources review cycle.

* - Current Intelligence Requirements and Priorities. (See DCID 1/2.)

* - Mid-Range Projected Requirements. (See DCI Perspectives.)

* - Long-Range Projected Requirements.

* - Degree of Essentiality.

STAT 4.5 [redacted] Each performance requirement involves a separate analysis. The sample data tree, Figure E-9, illustrates some structural elements. The end result is an organized data base with auditable tracks to each element therein. Such a mechanism makes it possible to arrive at authoritative conclusions about current shortfalls in capabilities, and to describe those shortfalls factually, precisely

and in relation to specific proposals or issues in the annual programming cycle and the formulation of ZBB packages. This mechanism also provides a translation and semantic bridge between the non-technical language of the user of automated systems and the technical vocabulary of the designers and operators of those systems.

CIHS Component Subsystems

STAT 4.6 [redacted] This part of the MIS provides functional descriptions of each of the component information systems which make up the CIHS. It includes a functional summary (subsystem overview); pointers to other data categories; performance characteristics and statistics; system status indicators; and cost parameters. The sample data tree descriptive of CIHS component subsystems is at Figure E-10.

Data Bases and Files

STAT 4.7 [redacted] This part of the MIS provides an inventory of the Intelligence Community's major data bases and files. It contains a functional and physical description of each. It identifies the file classification, the host support facility(s), and some level of performance characteristics and statistics to permit the determination of growth rate and potential. These data should be retrievable by any fielded item or keyword in the functional descriptions. A sample data tree is shown in Figure E-11. (See also Annex B, Intelligence Data Bases.)

Physical Facilities

STAT 4.8 [redacted] This part of the MIS provides an inventory of the Intelligence Community's major data processing facilities. A sample data tree for an ADP facility is shown in Figure E-12. This subset includes identification of the responsible organization controlling the facility, its location, equipment inventory (hardware), software inventory (both operating system and applications software), system users, performance and utilization characteristics and statistics, and costs. These data should be retrievable by any fielded item or generic keyword in the description fields.

STAT 4.9 [redacted] Separate data trees should be developed for other types of facilities, such as Intelligence Libraries, and Intelligence Central Reference Services. Neither is included herein.

Telecommunications Facilities and Networks

STAT 4.10 [redacted] This part of the MIS describes the information handling systems used by Intelligence Community analysts, managers, and customers to communicate with one another or with a computer that drives some data base or other part of the CIHS.

STAT 4.11 [redacted] The MIS data included in this subset identify responsible organizations controlling these facilities, their users, the system capacities and characteristics, related facilities, supporting hardware, performance statistics, costs, communications protocols and standards, and aspects of security, accessibility and vulnerability. These data should be retrievable by any fielded item or generic communications keyword in descriptor fields. A sample data tree is shown at Figure E-13.

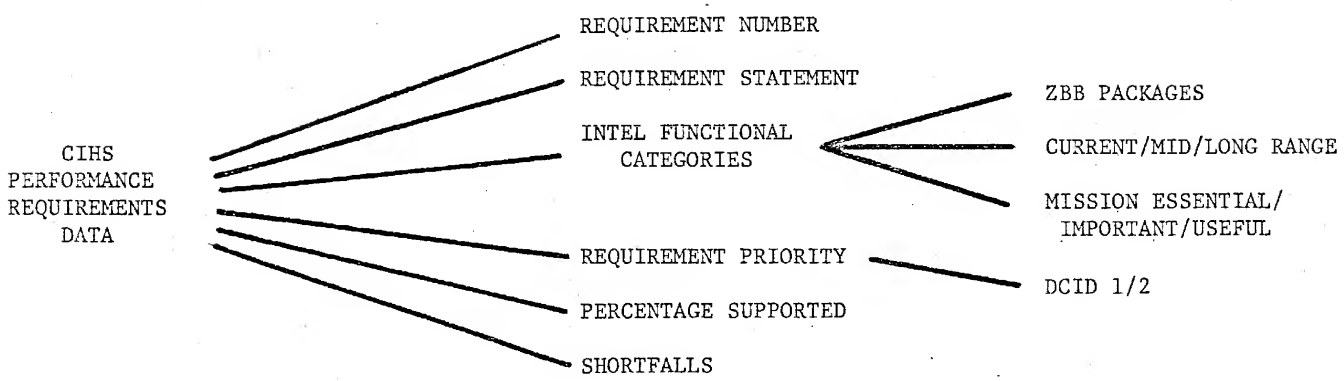


Figure E-9: Sample Data Tree for CIHS Performance Requirements

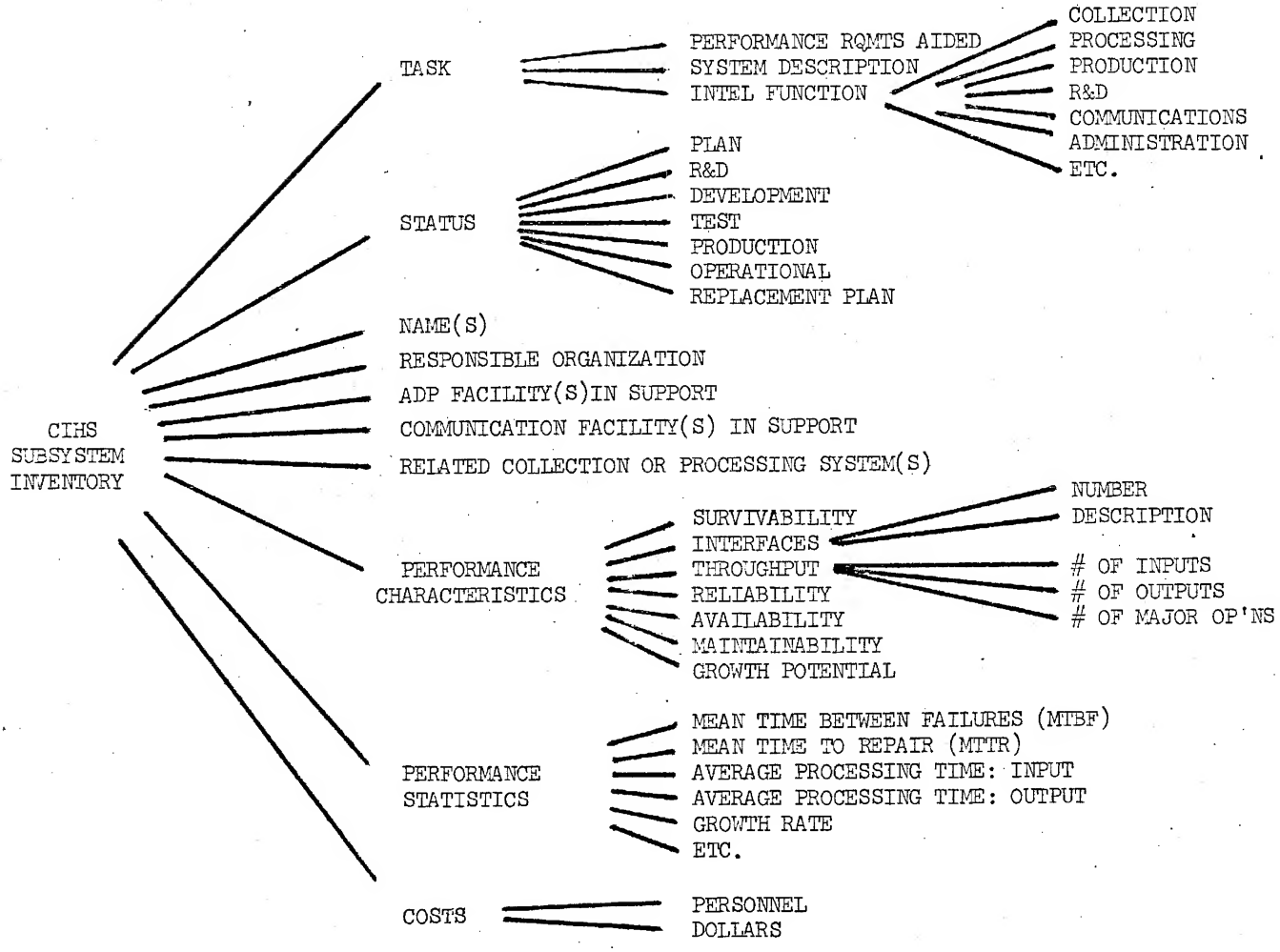


Figure E-10: Sample Data Tree for CIHS Subsystem Inventory

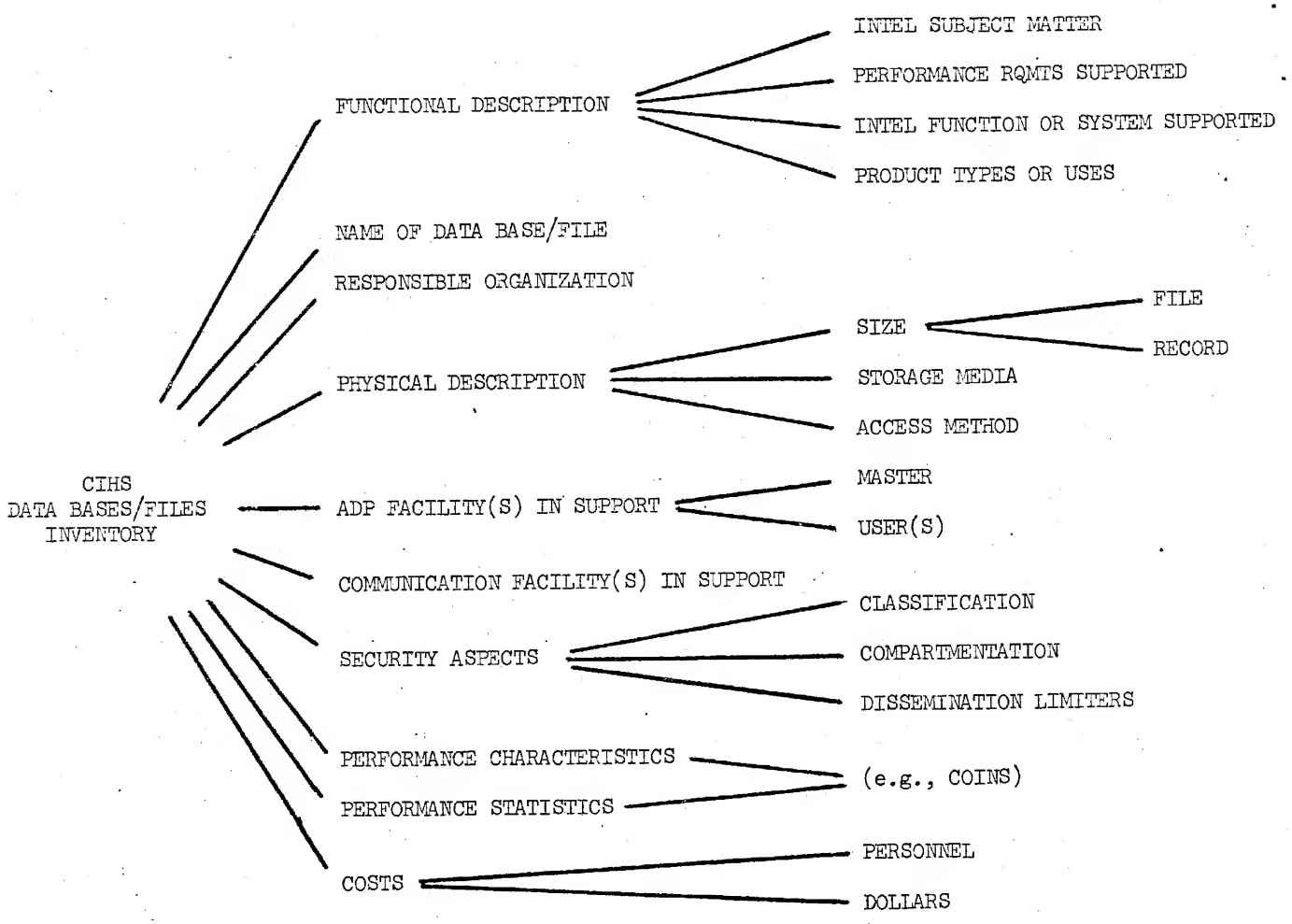
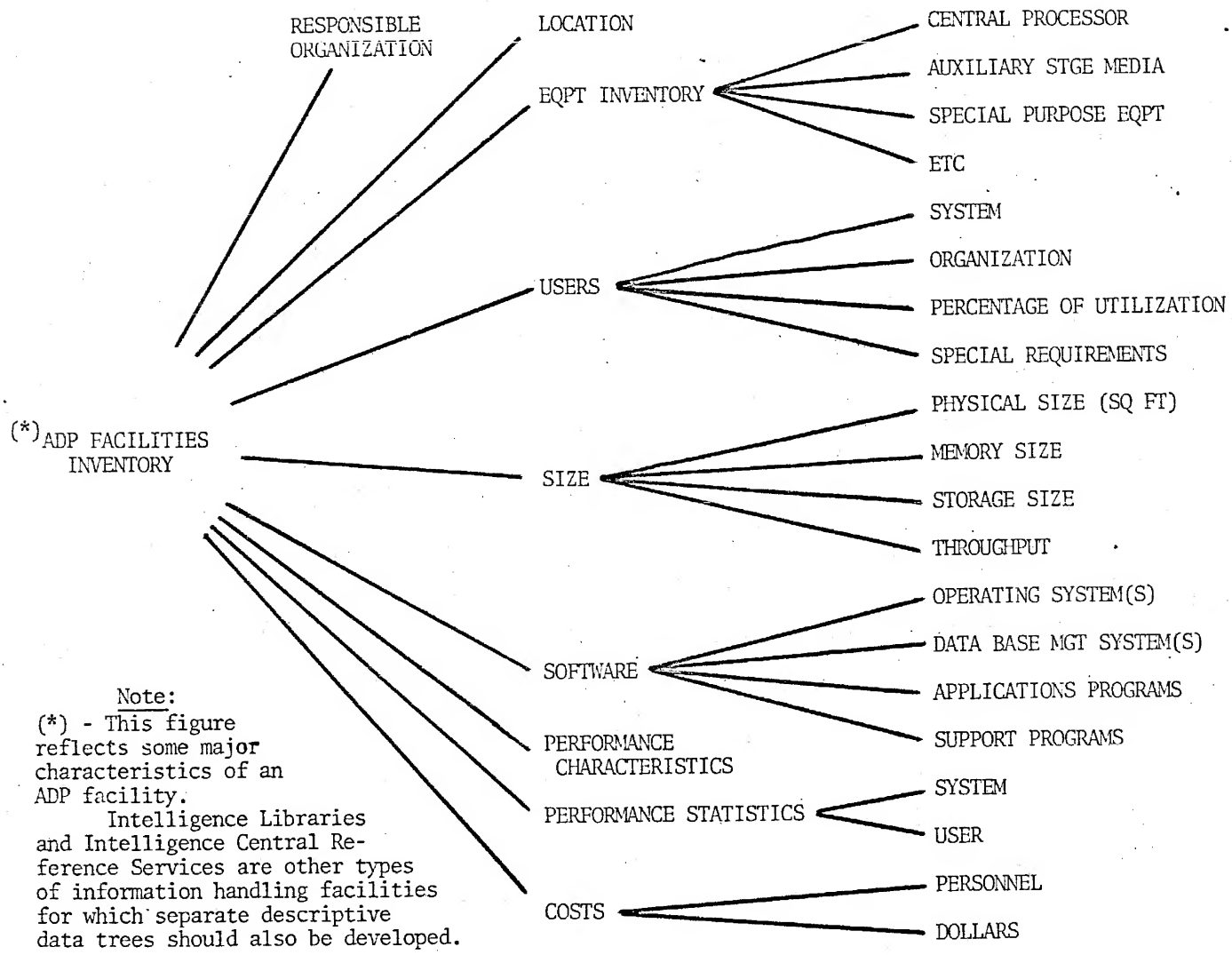


Figure E-11: Sample Data Tree for Data Bases/Files Inventory



Note:
(*) - This figure reflects some major characteristics of an ADP facility.
Intelligence Libraries and Intelligence Central Reference Services are other types of information handling facilities for which separate descriptive data trees should also be developed.

Figure E-12: Sample Data Tree for ADP Facilities Inventory

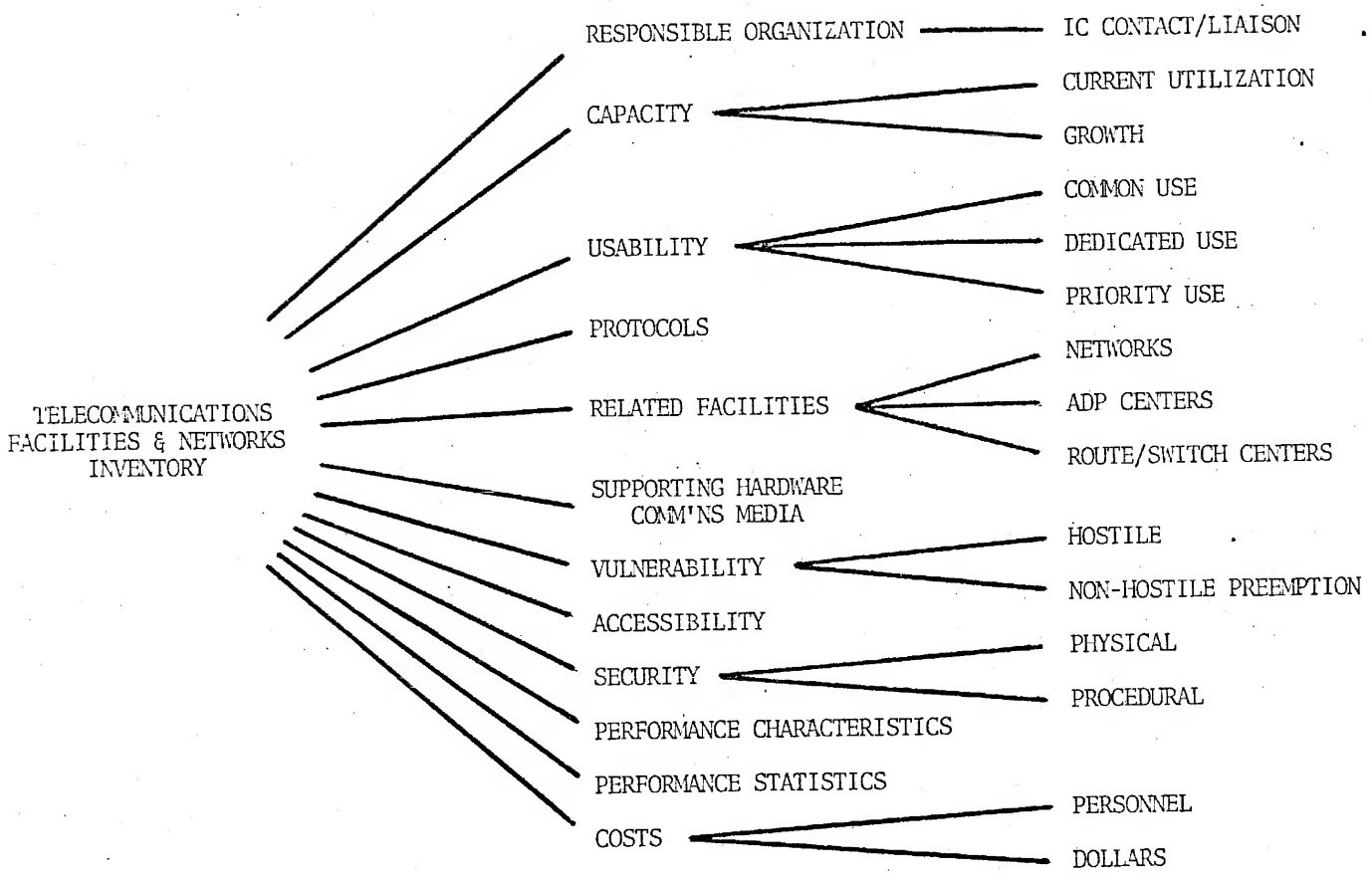


Figure E-13: Sample Data Tree for Telecommunications Facilities & Networks Inventory

ANNEX E - TAB 3

PROGRAMMING AND BUDGETING

I. SUMMARY

STAT 5.1 [redacted] Institutional Separateness in the Past. The ADP and other information handling assets, systems and capabilities that now exist in the Intelligence Community, by and large, have come into being over the past decade or more because individual departments and agencies obtained resources which were applied to solve their own particular problems. Those resource requests and approvals resulted from the annual programming and budgeting process. The institutional framework in which programs have been organized (e.g., the GDIP, the CCP, the CIA Program, etc.) has made it cumbersome and difficult to conduct cross-program analysis on a functional subject, such as ADP, which cuts across institutional and programmatic lines. The IC Staff has not had either adequate manpower or technical experience in this area to effectively evaluate proposals and translate from the individual institutional focus to an appraisal of Community-wide potential.

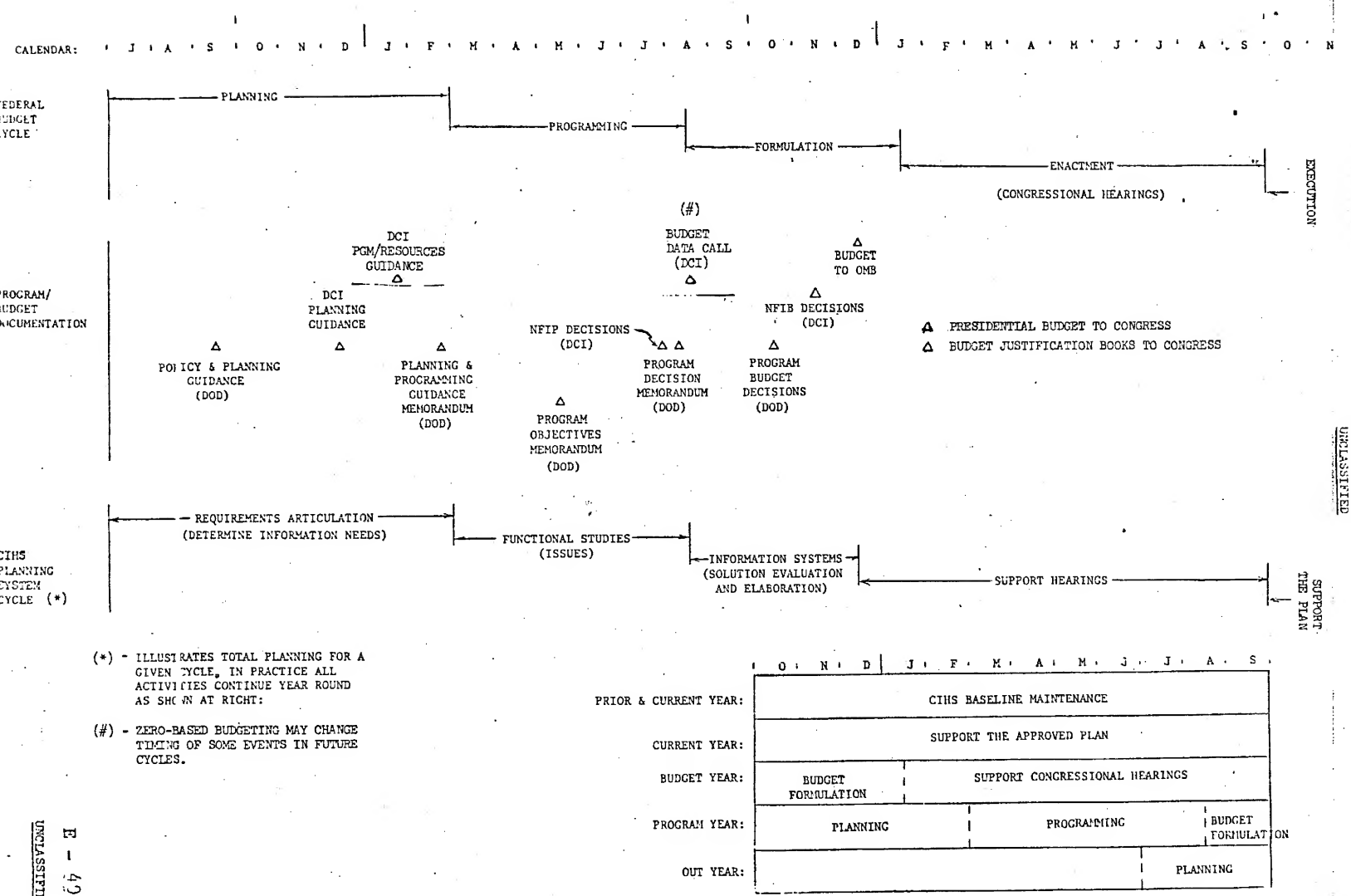
STAT 5.2 [redacted] Need for a Comprehensive Community Plan. The top management of the Community and the Congressional committees dealing with intelligence matters are in agreement that the resources for hardware such as computers and telecommunications equipment, in fact, resources for all information handling systems and capabilities, must be provided, managed and operated under a comprehensive total Community plan. Resource requests to create new capabilities must be evaluated in the

context of a total official plan, and planning for these assets must be directly related in a very practical way to the Community-wide review and approval processes.

STAT 5.3 [redacted] New Opportunities Through Zero-Based Budgeting. The events in the annual programming and budgeting cycle and the principles of zero-based budgeting provide an opportunity and an orderly mechanism to put into practice planning for a Community Information Handling System (CIHS) which includes all of the resources and existing or planned assets of this type that are now encompassed in the official National Foreign Intelligence Plan (NFIP) and Budget (NFIB).

STAT 5.4 [redacted] Correctives for Past Deficiencies. This Tab 3 to Annex E provides a background description of the programming and budgeting system as it has existed in the past and notes deficiencies therein. This Tab 3 also points to ways in which those deficiencies can and will be eliminated as a result of the application of zero-based budgeting and the increasing capability of the Community, under the DCI, to make resource decisions that are maximized to provide total Community benefits.

STAT 5.5 [redacted] The Annual Cycle. Figure E-14 depicts the annual cycle of activities relating to planning, programming and budgeting. Identified therein are the major specific events which provide opportunities to furnish DCI guidance or conduct DCI-directed reviews and make top management, Community-oriented decisions regarding ADP and other information handling resources.



(*) - ILLUSTRATES TOTAL PLANNING FOR A GIVEN CYCLE, IN PRACTICE ALL ACTIVITIES CONTINUE YEAR ROUND AS SHOWN AT RIGHT:

(#) - ZERO-BASED BUDGETING MAY CHANGE TIMING OF SOME EVENTS IN FUTURE CYCLES.

FIGURE E- 14 CIHS PLANNING SYSTEM CYCLE IN SUPPORT OF FEDERAL BUDGET CYCLE

II. DISCUSSION

Past Practice

STAT 6.1 [redacted] Heretofore, information and proposals about computers and other information handling systems and related assets have reached the Intelligence Community Staff through a mixture of management processes. Some data and proposals have been presented and moulded by the formalized and compartmented planning, programming and budgeting system of the DoD. Different processes have been used in CIA and non-Defense departments. Independently, each process has reflected a businesslike approach to the subject matter in the context of the way in which a particular department or agency carries out its business. The deficiency, from an Intelligence Community management point of view, however, has been that these separate processes are not mutually-reenforcing or consistent with each other. As a result, this mechanism has not provided a suitable basis for the IC Staff to serve the DCI and top management by providing an integrated appraisal of these resources proposals and the functional use of these assets. Consequently, it has not been possible to provide the fully-reasoned and thoroughly analyzed resources justifications and explanations that the DCI must have from his staff and from the Community and that the Congress has a right to expect from the DCI.

STAT 6.2 [redacted] Contributing to this difficulty, moreover, has been the lack of an adequate technical/evaluative expertise in the IC Staff. This has resulted in an inadequate capability to independently evaluate and challenge proposals advanced by the departments and agencies,

particularly in the very limited time available during a single on-going program/budget cycle.

STAT 6.3 [redacted] In addition, the non-existence of an official master plan for all of these resources, i.e., an official plan for the CIHS, has meant that reviewers at the IC Staff level of resources proposals reaching them have not been able to measure the potential contribution of a particular request for resources against an authoritative yardstick that reflects a balance of total Community needs.

STAT 6.4 [redacted] Planning. In the past, no detailed DCI planning guidance has existed relative to ADP and other information handling resources. The departments and agencies have formulated their program proposals using guidelines that to a considerable degree have been generated at the department/agency level. As a result, there has been no DCI influence early enough in the budget formulation process to have any major substantive effect on the level of resource requests welling up from within the Community.

STAT 6.5 [redacted] Programming. At the prior and present level of IC Staff manpower applied to ADP and information handling resources proposals, the DCI has had too slender a capability to undertake comprehensive analysis and technical evaluation of Community programs. Proposals that have been built into programmatic presentations reflecting the satisfaction of a need by some department or agency cannot readily be analyzed for potential benefit to the total Intelligence Community. The proposing agency is not in a position to make such a total Community evaluation, and the IC Staff has not been in a strong position

to repackage and reanalyze these individual requests from a larger point of view. The differences in programming mechanisms, including vocabulary, and the non-uniform presentation of statistical and evaluatory information, have further handicapped the modest capabilities of the IC Staff. That organization has not been able to identify and evaluate new ADP-related initiatives early enough to have an opportunity to judge whether the initiative is necessary, what financial baseline may be affected, or what tangible and pragmatic benefits the initiative can be expected to produce beyond the rhetorical appeal of "more timeliness" and "greater speed."

STAT 6.6 [redacted] Budgeting. The Community's budget is examined in the same institutional packages as is its program. Hence, ADP-related assets have been treated as a subset of some institution's needs rather than as a functional total that transcends departments and agencies and involves the entire Community. That kind of fragmentation does not result in the presentation of an adequate set of facts and explanations to permit the making of Community-related judgments.

Improvements in Program/Budget Formulation and Review

STAT 6.7 [redacted] Zero-Based Budgeting. the "packaging" and "ranking" features of zero-based budgeting were applied for the first time during the IC Staff's budget review activity in the fall of 1977. Zero-based budgeting procedures offer means, not heretofore available, for improving the factual and evaluative descriptions of new resources proposals, and hence providing to the IC Staff level of review a more useful set

of explanations to help in the evaluation of resources alternatives.

25X1 6.8 [redacted] Planning and Programming Guidance. Annually, around the close of each calendar year, the IC Staff's Office of Policy and Planning provides the DCI's general planning guidance for a five-year period. In addition hereafter, the IC Staff's Office of Program and Budget Development will be providing to the Community early in each new calendar year a planning and programming guidance document based on the experience of the preceding ZBB exercise. This guidance will specify a direction for the Community over a five-year period, and will include program constraints that express the DCI's estimate of what assets and capabilities he needs in order to achieve his goals and objectives. In the case of DoD, which includes about 85% of the Community's ADP inventory, the above two sets of guidance will be incorporated in the Secretary of Defense Planning and Programming Guidance Memorandum (DPPGM), which also addresses a five-year period. The intelligence section of the DPPGM transmits the DCI's fiscal constraints for intelligence to the Services and Agencies within DoD. The DCI's guidance will include two new features: (1) a narrative, and (2) explicit fiscal constraints relative to ADP and information handling resources and activities. Past guidance documents contained no such constraints and consequently in the past dollars and manpower for ADP-related activities were free to "float" within the broader guidance imposed on total programs.

25X1 6.9 [redacted] Programming. In the future, each NFIP manager will use the guidance documents to develop his Recommended Five Year Program.

This will result in the translation of the guidance into specific sets of resources. ZBB will give the Program Managers sufficient flexibility to satisfy their perceived needs for ADP-related and information handling system capabilities, but the format and structure for reporting to the IC Staff will be fixed under the ZBB packaging and ranking concept. This will remove the heterogeneous presentation of information on this type of resources that has been common in past practice. The ZBB package concept lends itself to a systematic identification of the spectrum of resources relating to ADP and information handling that is presented in a program request. The requirement that "minimum," "current" and "enhanced" package proposals be presented requires further discipline from the Program Manager who must rank his assets against one another. The packaging concept, and the improved narratives that will be generated, should make the IC Staff's task of analyzing and evaluating these alternatives a more systematic and accomplishable undertaking.

25X1 6.10 [redacted] Budgeting. The IC Staff received estimates in ZBB format for the first time during the fall of 1977 budget exercise. These materials were examined in a series of hearings chaired by the IC Staff and participated in by OMB and OSD counterparts. The hearings resulted in the development of budget issues related to ADP, from which it was possible to lower resource requests. Because of the added visibility that ZBB provided, the IC Staff was able to adjust ADP requests of CIA to less than 10% growth, and GDIP growth to 10%,

thereby bringing these programs in line with the Congressional growth guidelines. ADP at NSA was analyzed and evaluated more rigorously under ZBB than ever before, but the FY-79 ADP growth for that agency will exceed 10%. Without the benefit of program cycle experience with NSA's ADP in ZBB format, reductions in excess of those actually made could not be justified on the basis of the information that the budget cycle itself produced. This limitation should be taken care of as the ZBB process is repeated. It is clear from this past year's experience that the ZBB itself provides a basis for comprehensive review and examination of ADP-related and information handling assets. One tangible benefit resulting is that a more informative and meaningful set of Budget Justification Books can be provided to the Congress.

Other Improvements

25X1

6.11 [redacted] Organizational. The DCI is in the process of establishing a new organization, the Community Information Systems Office (CISO), as part of his reorganization of the Intelligence Community Staff. The chief of this office will be the "senior ADP official" in the Intelligence Community. He will report to the DCI through the Director's Deputy for Resources Management. The mission and functions of this office will totally mesh it with the planning, programming and budgeting aspects of ZBB. It will develop the official mid-range and long-range master plan for the Community Information Handling System (CIHS); it will keep the plan current; and it will monitor the implementation of the plan by operating organizations. The office

will play a major role in the identification, analysis, and evaluation of specific current issues relating to ADP and information handling systems and assets in the Community, and it will be closely interrelated with the work of the Office of Program and Budget Development, providing support to the latter, and ensuring the practical reality of planning through its application to the resources decision-making process. By working closely with the other components of the Budget and Evaluation Directorate, the CISO will bring the equilibrium needed between the pragmatic aspects of the budgetary process on the one hand and the need for sound growth and improved utilization of the Community's information handling assets. Annex C to this report details the organization of the CISO.

STAT 6.12 [redacted] Intelligence Data Automation Requests (IDARs). A new procedure that can be implemented as soon as the CISO becomes operational is the IDAR, which is to be submitted to the head of that Office. This form of request will serve to notify CISO that some element of the Community is beginning to program or budget for a new system acquisition or to upgrade an existing operational system. The IDAR will include a description of user need, existing capabilities to satisfy that need, and an estimate of the added value of the proposed initiative to the Community as a whole in terms of the output and services provided. The IDAR submitter will provide analytical information that bears on his evaluation of the cost/benefit involved and projections of the full cost implications. The IDAR device is

a means to bridge the gap between the present lack of any orderly system to give advance notice of such a resources proposal and the eventual orderly approach (described in Annex E, Tab 1 and Figure E-5) to compare the CIHS baseline with identified shortfalls and to analyze alternatives to eliminate the shortfalls.

STAT 6.13 [redacted] A Management Information System for the CIHS. The MIS described in Annex E, Tab 1 will be directly related to the functional terminology employed in the ZBB packages. The MIS will also include financial information in the terminology used for programming and budgeting, so that it will be immediately applicable for use by analysts in evaluating individual proposals for resource applications. Once built, the MIS will be maintained and operated to assist higher levels of management in a manner comparable to the Community Intelligence Resources Information System (CIRIS). The task of designing and operating the MIS is assigned to CISO (see Annex C).

STAT 6.14 [redacted] Congressional Justification Books. The component parts of the CIHS will be described in the Congressional Justification Books in a manner that relates the work done by those components to the functional activities of intelligence users and customers who will benefit thereby. This will avoid treating these assets in isolation, as has been done on past occasions.

The Committee has continued to study the intelligence community's use of ADP. Reductions or restrictions have been placed on projects of the CIA, Army and Air Force for major data processing upgrades, pending better planning and more thorough justification. Moreover, the Committee believes that the level of coordination among agencies can be much improved, particularly in initiatives which involve disciplines where other agencies have substantial expertise. For example, the CIA and the military services are apparently not required to coordinate with the National Security Agency in procuring hardware and software to analyze telemetry or ELINT signals. [redacted] 25X1

The Committee will be providing to the DCI and the program managers guidance on information to be included in the FY 1980 congressional justification books. The Committee also requests the DCI and the program managers comply with the following guidelines in preparing their FY 1980 programs. [redacted] 25X1

-- Major enhancements, innovations, or new initiatives in data processing hardware and software should be clearly identified. [redacted] 25X1

-- Such initiatives should be coordinated with other organizations within the community having expertise in the intelligence disciplines involved; the extent and results of such coordination should be clearly stated in the budget request. [redacted] 25X1

TOP SECRET

-- Program Managers should insure that each ADP initiative gives the greatest emphasis to commonality, interoperability, and nonduplication of effort; fits with long-range plans for data processing upgrades in the intelligence community; is valid in terms of consumer needs; and cannot be met by other techniques of lower cost or by reasonable relaxation of the restrictions on the requirement. 25X1 [redacted]

-- The DCI should insure that each major proposed ADP upgrade is supported by a comprehensive long-range plan, fits with the policies, long-range direction and control of data processing upgrades, and supports analytic priorities throughout the community. [redacted] 25X1

-- The program managers proposing the initiative should insure that the input and output data of systems can be readily interlinked with the processing and analysis systems of other organizations where appropriate. 25X1 [redacted]

-- Program managers should focus on the full cost and long-range implications of software initiatives. For example, the Committee has encountered examples of new application programs which were funded individually but in aggregate eventually require the acquisition of more computers. [redacted] 25X1

TOP SECRET

Special Provisions

CAMS Development

The Committee has authorized the full $4.0 million requested for the CAMS upgrade. It is concerned, however, about the ultimate size and cost of this planned upgrade, and will be examining it in detail in the coming months. The Committee directs, therefore, that none of these funds be obligated until it has been provided a detailed description and program plan for this initiative which includes at least the following: [redacted] 25X1

-- A description and inventory of the current and proposed systems, and their capabilities; [redacted] 25X1

-- A description of the specific deficiencies in the current system that the upgrade is designed to overcome; [redacted] 25X1

-- A description of the specific improvements that will be made to overcome these deficiencies; and [redacted] 25X1

-- Cost of each of the proposed improvements over the life-cycle of the upgrade. [redacted] 25X1